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10/559,782

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Ian McDowall

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EXAMINER

HUSSAIN, IMAD

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/559,782 | Applicant(s) MCDOWALL ET AL. | |
| | Examiner IMAD HUSSAIN | Art Unit 2451 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>22 January 2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's amendment dated 16 March 2009 has been received and made of record.
2. New claim 23 has been added.
3. Claims 1-23 are pending in Application 10/559782.

Response to Arguments

- 4. Applicant's arguments filed 16 March 2009 regarding the 35 USC 112 rejection of claims 1 and 12 have been fully considered and are persuasive.**

Applicant argues [Pages 6-7] that the claimed "service" is not a service instance, but rather a "service" in the context of having a structured naming convention uniquely identifying the service.

Examiner notes that the disclosure of the instant application is exceedingly unclear on what is meant by "service". As best Examiner can comprehend, there are three possible meanings that may be assigned to the word "service" in the context of the instant application:

- a. an abstract specification that defines a set of interfaces (e.g., the HTTP service referenced in the background section of the instant application, which is defined in, e.g., RFC 2616),

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- b. an implementation of (a) actually running and servicing requests on a particular server or set of servers (e.g., the particular IBM HTTP web service/service that services web requests for <http://www.ibm.com/>), or
- c. the software product of (b), which may be purchased and deployed on multiple servers for various organizations in order to provide a service matching the specification of (a) (e.g., the WebSphere-branded “IBM HTTP Server” software package).

Given these options and the lack of clarification from the specification and Applicant’s previous remarks (filed 30 July 2008), Examiner had selected (b) as the most reasonable interpretation of the claim language, given that the claim features “a service, *installed* on the second computing device” using a “structured naming convention that both uniquely identifies the service *itself* and the uniquely identifies the service as a service from a particular vendor”.

In the previous office action, Examiner referred specifically to a “service instance” to make it clear that such an interpretation was being used. Given Applicant’s arguments (filed 16 March 2009) stating that the claimed service is *not* a particular service instance, the 35 USC 112 rejection is withdrawn. However, Examiner respectfully asks that Applicant clarify, on the record, Applicant’s definition of the term “service” in the context of the claims.

5. Applicant's arguments filed 16 March 2009 regarding the 35 USC 103(a) rejections of claims 1-22 have been fully considered but they are not persuasive.

Applicant argues [Page 10] that Bernardin does not teach that the service broker starts up the service.

Examiner respectfully disagrees with Applicant's interpretation of the prior art. In the portion of the document cited by Applicant, Bernardin states that "services are.. provisioned dynamically.. at the behest of the Grid Server Manager". It is implicit that provisioning involves starting up a service.

Applicant argues [Page 11] that registering and translating services is "a significantly different field of endeavor" from registering, finding and using services.

Examiner disagrees with Applicant's conclusion. The field of endeavor test is not so narrow as to be limiting to a sliver of art.

Applicant argues [Page 11] that "Examiner is using a patchwork of loosely related prior art in an attempt to weave together all of the features found in the independent claims, without providing a reasonable basis for combining them to achieve the claimed invention."

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does

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not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Moreover, Applicant has assumed a conclusion without providing supporting evidence.

Applicant argues [Page 11] that “Srinivasan concerns registration, whereas claims 7 and 18 relate to whether or not a service is restarted if a service is required more than once.”

Examiner disagrees with Applicant's characterization of the prior art and interpretation of the claim language.

Claim 7 states that “if a service is required more than once, the server providing the service will not be re-started, but *instead the service broker uses cached address information*” (emphasis Examiner's). The cited portion of Srinivasan clearly teaches that the service's address information is cached as long as it is available, even for additional future service requests.

Claim Objections

6. Claims 1, 12 and 23 are objected to because of the following informalities:

Examiner notes that the disclosure of the instant application is exceedingly unclear on what is meant by “service”. As best Examiner can comprehend, there are three possible meanings that may be assigned to the word “service” in the context of the instant application:

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- a. an abstract specification that defines a set of interfaces (e.g., the HTTP service referenced in the background section of the instant application, which is defined in, e.g., RFC 2616),
- b. an implementation of (a) actually running and servicing requests on a particular server or set of servers (e.g., the particular IBM HTTP web service/service that services web requests for <http://www.ibm.com/>), or
- c. the software product of (b), which may be purchased and deployed on multiple servers for various organizations in order to provide a service matching the specification of (a) (e.g., the WebSphere-branded “IBM HTTP Server” software package).

For purposes of examination, Examiner has used definition (c). Examiner respectfully asks that Applicant clarify, on the record, Applicant’s definition of the term “service” in the context of the claims. Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 1-8, 10, 12-19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raj Srinivasan (*RFC 1833: Binding Protocols for ONC RPC*)**

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Version 2, hereinafter *Srinivasan*) in view of James Bernardin et al. (US 2005/0021594 A1, hereinafter *Bernardin*) and in further view of IBM TDB (*Remote propagation of Activity Service customized properties/Customization of Activity Service use of Property Groups*, hereinafter *IBM*).

Regarding claims 1 and 12, Srinivasan discloses *a method of (and associated device for) enabling a client, running on a first computing device that is connected to a second computing device, to use a service on that second computing device [“client” and “remote procedure”, Page 14 Paragraph 1], comprising the steps of:*

(a) a service, installed on the second computing device, registering its published name [“RPC program number”] with a service broker [“lookup service”] on that second computing device [Page 2 Paragraph 1];

(b) the client sending a message to the service broker specifying the... service; wherein the published name [“RPC program number” and “version number”] of the service does not include specifying the connection point address of that service [Page 2 Paragraph 1].

Srinivasan does not explicitly disclose that *the service broker starts up the service* or that the client *specifies the name of the service*.

However, Bernardin discloses that *the service broker starts up the service* [Bernardin: Paragraph 0202] and that the client *specifies the name of the service* [Bernardin: Paragraph 0014].

Srinivasan and Bernardin are analogous art in the same field of endeavor as both deal with service registration. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to utilize the automatic process startup of Bernardin for automatically starting processes in the system of Srinivasan. One of ordinary skill in the art would have been motivated to modify the system of Srinivasan with the automatic process startup of Bernardin because in doing so, the system would allow for starting services on an on-demand basis.

Srinivasan-Bernardin does not disclose that *the published name of the service conforms to a structured naming convention that uniquely identifies the service itself and uniquely identifies the service as a service from a particular vendor.*

However, IBM teaches that *the published name of the service conforms to a structured naming convention that uniquely identifies the service itself and uniquely identifies the service as a service from a particular vendor* [IBM: Page 2, "The Solution"].

Srinivasan-Bernardin and IBM are analogous art in the same field of endeavor as both deal with network service registrars. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to utilize the naming scheme of IBM for service identification in the system of Srinivasan-Bernardin. One of ordinary skill in the art would have been motivated to modify the system of Srinivasan-Bernardin with the naming scheme of IBM because in doing so, the system would allow for identification with greater meaning and uniqueness [IBM: Page 3, "The Solution"].

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Regarding claims 2 and 13, Srinivasan-Bernardin-IBM teaches that *the structured naming convention uses reversed domain information* [IBM: Page 3, “The Solution”].

Regarding claims 3 and 14, Srinivasan-Bernardin-IBM teaches that *the service broker uses a single well-known port number address so that the client needs only this well known port number to send a message to the service broker* [Srinivasan: “well-known because it uses a fixed transport selector”, “port 111 over TCP and UDP”, Page 2 Paragraphs 1 and 3].

Regarding claims 4 and 15, Srinivasan-Bernardin-IBM teaches that *the service obtains a connection point and informs the service broker of the connection point address and the service broker then informs the client of the connection point address* [Srinivasan: Page 2 Paragraph 1].

Regarding claims 5 and 16, Srinivasan-Bernardin-IBM teaches that *the service broker informs the client of the connection point address and the client then uses that address in communicating directly with the server* [Srinivasan: Page 2 Paragraph 1].

Regarding claims 6 and 17, Srinivasan-Bernardin-IBM teaches that *the connection point address is a port number* [Srinivasan: Page 11 Paragraph 5 (Port Mapper Program Protocol) and Page 13 Paragraph 6 (PMAPPROC_GETPORT)].

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Regarding claims 7 and 18, Srinivasan-Bernardin-IBM teaches that *if a service is required more than once, the server providing the service will not be re-started, but instead the service broker uses cached address information* [Srinivasan: Page 9 Paragraphs 2-4 (the registration remains set until the program becomes unavailable)].

Regarding claims 8 and 19, Srinivasan-Bernardin-IBM teaches that *when services register with the service broker, they register a version number to 'indicate the version of the service that they are providing* [Srinivasan: Page 13 Paragraph 4 (PMAPPROC_SET)].

Regarding claims 10 and 21, Srinivasan-Bernardin-IBM teaches that *the service broker enables multiple services* [Srinivasan: "remote programs", Page 2 Paragraph 2] *installed on a single, second computing device* [Srinivasan: "resides at the same network address", Page 2 Paragraph 1] *to serve one or more external clients that are computers connected by a remote link such as a network data connection.* [Srinivasan: "transport" Page 2 Paragraph 1].

9. Claims 9 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivasan, Bernardin and IBM as applied to claims 1 and 12 in further view of Paul Weschler (US 6842903 B1, hereinafter *Weschler*).

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Regarding claims 9 and 20, Srinivasan-Bernardin-IBM teaches that *the client can request a specific version of a named service* [Srinivasan: Page 13 Paragraph 6 (PMAPPROC_GETPORT)].

Srinivasan-Bernardin-IBM does not explicitly disclose that the *highest version available of the named service* is selected in a case where a version number is omitted by the client.

However, Weschler teaches that the *highest version available of the named service* is selected in a case where a version number is omitted by the client [Weschler: Column 9 Lines 7-12].

Srinivasan-Bernardin-IBM and Bugbee are analogous art in the same field of endeavor as both deal with service systems. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to utilize the default version scheme of Weschler for selecting a version even when one is not explicitly provided in the system of Srinivasan-Bernardin-IBM. One of ordinary skill in the art would have been motivated to modify the system of Srinivasan-Bernardin-IBM with the default scheme of Weschler because in doing so, the system would allow for the services to function even when a particular version is not explicitly requested.

10. Claims 9 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivasan, Bernardin and IBM as applied to claims 1 and 12 in further view of Kenneth J. Bugbee (US 6289392 B1, hereinafter *Bugbee*).

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Regarding claims 9 and 20, Srinivasan-Bernardin-IBM teaches that *the client can request a specific version of a named service* [Srinivasan: Page 13 Paragraph 6 (PMAPPROC_GETPORT)].

Srinivasan-Bernardin-IBM does not explicitly disclose that the *highest version available of the named service* is selected in a case where a version number is omitted by the client.

However, Bugbee teaches that the *highest version available of the named service* is selected in a case where a version number is omitted by the client [Bugbee: Column 5 Lines 4-14].

Srinivasan-Bernardin-IBM and Bugbee are analogous art in the same field of endeavor as both deal with service systems. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to utilize the default version scheme of Bugbee for selecting a version even when one is not explicitly provided in the system of Srinivasan-Bernardin-IBM. One of ordinary skill in the art would have been motivated to modify the system of Srinivasan-Bernardin-IBM with the default scheme of Bugbee because in doing so, the system would allow for the services to function even when a particular version is not explicitly requested.

11. Claims 11 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivasan, Bernardin and IBM as applied to claims 1 and 12 in further view of Simson Garfinkel et al (Practical UNIX & Internet Security, hereafter Garfinkel).

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Regarding claims 11 and 22, Srinivasan-Bernardin-IBM teaches that *the service broker provides authentication information such that only authenticated external clients can access services* [Garfinkel: Section 19.2.2 RPC Authentication].

Srinivasan-Bernardin-IBM and Garfinkel are analogous art in the same field of endeavor as both deal with service systems. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to utilize the authentication scheme of Garfinkel for limiting access to particular clients even when one is not explicitly provided in the system of Srinivasan-Bernardin-IBM. One of ordinary skill in the art would have been motivated to modify the system of Srinivasan-Bernardin-IBM with the authentication scheme of Garfinkel because in doing so, the system would allow for greater security and increased availability for authorized users.

12. Claims 11 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivasan, Bernardin and IBM as applied to claims 1 and 12 in further view of Eric T. Hillerbrand et al. (US 2004/0054690 A1, hereafter Hillerbrand).

Regarding claims 11 and 22, Srinivasan-Bernardin-IBM teaches that *the service broker provides authentication information such that only authenticated external clients can access services* [Hillerbrand: Paragraph 0173].

Srinivasan-Bernardin-IBM and Hillerbrand are analogous art in the same field of endeavor as both deal with service systems. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to utilize the

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authentication scheme of Hillerbrand for limiting access to particular clients even when one is not explicitly provided in the system of Srinivasan-Bernardin-IBM. One of ordinary skill in the art would have been motivated to modify the system of Srinivasan-Bernardin-IBM with the authentication scheme of Hillerbrand because in doing so, the system would allow for greater security and increased availability for authorized users.

13. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Srinivasan in view of Bernardin in further view of IBM and in further view of Jonathan Schmidt et al. (US 5867660 A, hereinafter *Schmidt*).

Regarding claim 23, Srinivasan discloses *a method of (and associated device for) enabling a client, running on a first computing device that is connected to a second computing device, to use a service on that second computing device* [“client” and “remote procedure”, Page 14 Paragraph 1], *comprising the steps of:*

(a) a service, installed on the second computing device, registering its published name [“RPC program number”] with a service broker [“lookup service”] on that second computing device [Page 2 Paragraph 1];

(b) the client sending a message to the service broker specifying the... service; wherein the published name [“RPC program number” and “version number”] of the service does not include specifying the connection point address of that service [Page 2 Paragraph 1].

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Srinivasan does not explicitly disclose that *the service broker starts up the service* or that the client *specifies the name of the service*.

However, Bernardin discloses that *the service broker starts up the service* [Bernardin: Paragraph 0202] and that the client *specifies the name of the service* [Bernardin: Paragraph 0014].

Srinivasan and Bernardin are analogous art in the same field of endeavor as both deal with service registration. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to utilize the automatic process startup of Bernardin for automatically starting processes in the system of Srinivasan. One of ordinary skill in the art would have been motivated to modify the system of Srinivasan with the automatic process startup of Bernardin because in doing so, the system would allow for starting services on an on-demand basis.

Srinivasan-Bernardin does not disclose that *the published name of the service conforms to a structured naming convention that uniquely identifies the service itself and uniquely identifies the service as a service from a particular vendor*.

However, IBM teaches that *the published name of the service conforms to a structured naming convention that uniquely identifies the service itself and uniquely identifies the service as a service from a particular vendor* [IBM: Page 2, "The Solution"].

Srinivasan-Bernardin and IBM are analogous art in the same field of endeavor as both deal with network service registrars. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to utilize the naming scheme of IBM for service identification in the system of Srinivasan-Bernardin. One of

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ordinary skill in the art would have been motivated to modify the system of Srinivasan-Bernardin with the naming scheme of IBM because in doing so, the system would allow for identification with greater meaning and uniqueness [IBM: Page 3, "The Solution"].

Srinivasan-Bernardin-IBM does not explicitly disclose that the services are *being provided by corresponding socket servers using the TCP/IP protocol suite*.

However, Schmidt teaches that the services are *being provided by corresponding socket servers using the TCP/IP protocol suite* [Schmidt: Column 5 Lines 41-43].

Srinivasan-Bernardin-IBM and Schmidt are analogous art in the same field of endeavor as both deal with network service registrars. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to utilize the socket server scheme of Schmidt for service identification in the system of Srinivasan-Bernardin-IBM. One of ordinary skill in the art would have been motivated to modify the system of Srinivasan-Bernardin-IBM with the socket server scheme of Schmidt because in doing so, the system would allow for greater compatibility with standard software components [Schmidt: Column 5 Lines 33-37, "WINSOCK"].

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IMAD HUSSAIN whose telephone number is (571) 270-3628. The examiner can normally be reached on Monday through Friday from 0800 to 1700.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/I. H./

Imad Hussain

Examiner, Art Unit 2451

/Salad Abdullahi/

Primary Examiner, Art Unit 2457